



Amendments to the Claims:

This listing of claims replaces all prior versions, and listing, of claims in the application.

Listing of Claims:

Claim 1. (Previously Presented) A high aspect ratio microcapsule comprising an antimicrobial agent dispersed in a hydrophilic polymer having a water absorption at equilibrium of at least about 5% by weight, said microcapsule being a three dimensional particle whose longest dimension is less than about 3000 microns and whose aspect ratio is greater than about 2.

Claim 2. (Previously Presented) A high aspect ratio microcapsule according to claim 1 wherein the antimicrobial agent contains a metal or metal ion selected from the group consisting of silver, copper, zinc, tin, gold, mercury, lead, iron, cobalt, nickel, manganese, arsenic, antimony, bismuth, barium, cadmium, chromium, thallium and combinations thereof.

Claim 3. (Original) A high aspect ratio microcapsule according to claim 2 wherein the antimicrobial metal or metal ion is silver, zinc, copper or a combination of any two or all three of the foregoing.

Claim 4. (Previously Presented) A high aspect ratio microcapsule according to claim 1 wherein the antimicrobial agent is selected from the group consisting of metal salts, metal oxides, antimicrobial water soluble glasses, antimicrobial metal ion-exchange agents and combinations thereof.

Claim 5. (Previously Presented) A high aspect ratio microcapsule according to claim 4 wherein the antimicrobial agent is an antimicrobial metal ion-exchange agent comprising a ceramic carrier having ion-exchanged antimicrobial metal ions.

Claim 6. (Original) A high aspect ratio microcapsule according to claim 5 wherein the ceramic carrier is selected from the group consisting of zeolites, hydroxyapatites and zirconium phosphates.

Claim 7. (Original) A high aspect ratio microcapsule according to claim 6 wherein the antimicrobial agent is a zeolite that contains silver ions.

Claims 8 and 9 (Cancelled)

Claim 10. (Previously Presented) A high aspect ratio microcapsule according to claim 1 wherein the hydrophilic polymer is a polymer with water absorption at equilibrium of at least about 20% by weight.

Claim 11. (Original) A high aspect ratio microcapsule according to claim 10 wherein the hydrophilic polymer is chosen from polyhydroxyethyl methacrylate, polyacrylamide, N-vinyl-2-pyrrolidinone, polysaccharides, polylactic acid, polyamide and polyurethane.

Claim 12. (Original) A high aspect ratio microcapsule according to claim 11 wherein the hydrophilic polymer is polyurethane.

Claim 13. (Original) A high aspect ratio microcapsule according to claim 1 wherein the microcapsule contains from about 1 to about 1000 parts by weight of antimicrobial agent based upon 100 parts by weight of hydrophilic polymer.

Claim 14. (Original) A high aspect ratio microcapsule according to claim 13 wherein the microcapsule contains from about 10 to about 200 parts by weight of antimicrobial agent based upon 100 parts by weight of hydrophilic polymer.

Claim 15. (Original) A high aspect ratio microcapsule according to claim 14 wherein the microcapsule contains from about 20 to about 100 parts by weight of antimicrobial agent based upon 100 parts by weight of hydrophilic polymer.

Claim 16. (Original) A high aspect ratio microcapsule according to claim 1 further comprising an inorganic discoloration inhibiting agent.

Claim 17. (Original) A high aspect ratio microcapsule according to claim 16 wherein said discoloration inhibiting agent is an ammonium compound.

Claim 18. (Previously Presented) A high aspect ratio microcapsule according to claim 17 wherein the antimicrobial agent comprises an antimicrobial metal ion-exchange agent and said inorganic discoloration agent comprises ion-exchanged ammonium ions contained within said antimicrobial agent.

Claim 19. (Original) A high aspect microcapsule according to claim 1 further comprising a dopant agent.

Claim 20. (Original) A high aspect ratio microcapsule according to claim 19 wherein said dopant is an inorganic sodium salt.

Claim 21. (Original) A microcapsule according to claim 20 wherein said dopant is sodium nitrate.

Claim 22. (Previously Presented) A high aspect ratio microcapsule according to claim 1 wherein the high aspect ratio microcapsule comprises multiple particles of one or more antimicrobial agents dispersed in a hydrophilic polymer.

Claims 23 – 32 (Cancelled)

Claim 33. (Original) A high aspect ratio microcapsule according to claim 1 wherein the aspect ratio is from about 4 to about 100.

Claim 34. (Previously Presented) A high aspect ratio microcapsule according to claim 1 wherein the aspect ratio is from about 5 to about 30.

Claims 35-44 (Cancelled)

Claim 45. (Previously Presented) A method of controlling the rate of release of an antimicrobial agent from a polymer matrix comprising forming a high aspect ratio microcapsule comprising an antimicrobial agent dispersed in a hydrophilic polymer having a water absorption at equilibrium of at least about 5% by weight which allows for the release of the antimicrobial agent at a given rate and incorporating the high aspect ratio antimicrobial microcapsule into another polymer which is either non-hydrophilic or which has a different hydrophilic property, wherein said microcapsule is a three dimensional particle having an aspect ratio of greater than about 2 and whose longest dimension is less than about 3000 microns.

Claim 46. (Cancelled)

Claim 47. (Previously Presented) A high aspect ratio microcapsule according to claim 1 wherein the longest dimension is from about 5 microns to about 1000 microns.

Claim 48. (Previously Presented) A high aspect ratio microcapsule according to claim 1 wherein the longest dimension is from about 10 microns to about 500 microns.

Claim 49. (Previously Presented) A high aspect ratio microcapsule according to claim 1 wherein the longest dimension is from about 20 microns to about 100 microns.

Claim 50. (Previously Presented) A high aspect ratio microcapsule according to claim 45 wherein the high aspect ratio is from about 4 to about 100.

Claim 51. (Previously Presented) A high aspect ratio microcapsule according to claim 45 wherein the high aspect ratio is from about 5 to about 30.

Claim 52. (Previously Presented) A high aspect ratio microcapsule according to claim 45 wherein the longest dimension is from about 5 microns to about 1000 microns.

Claim 53. (Previously Presented) A high aspect ratio microcapsule according to claim 45 wherein the longest dimension is from about 10 microns to about 500 microns.

Claim 54. (Previously Presented) A high aspect ratio microcapsule according to claim 45 wherein the longest dimension is from about 20 microns to about 100 microns.

Claim 55. (Previously Presented) A high aspect ratio microcapsule comprising from about 1 to about 1000 parts by weight of an antimicrobial agent dispersed in 100 parts by weight of a hydrophilic polymer, said hydrophilic polymer having a water absorption at equilibrium of at least about 5% by weight and said microcapsule being a three dimensional particle whose longest dimension is less than about 3000 microns and whose aspect ratio is greater than 2.

Claim 56. (Previously Presented) A high aspect ratio microcapsule according to claim 55 wherein the aspect ratio is from about 4 to about 100.

Claim 57. (Previously Presented) A high aspect ratio microcapsule according to claim 55 wherein the aspect ratio is from about 5 to about 30.

Claim 58. (Previously Presented) A high aspect ratio microcapsule according to claim 55 wherein the microcapsule contains from about 10 to about 200 parts by weight of antimicrobial agent based upon 100 parts by weight of hydrophilic polymer.

Claim 59. (Previously Presented) A high aspect ratio microcapsule according to claim 55 wherein the microcapsule contains from about 20 to about 100 parts by weight of antimicrobial agent based upon 100 parts by weight of hydrophilic polymer.

Claim 60. (Previously Presented) A high aspect ratio microcapsule according to claim 55 wherein the antimicrobial agent is an antimicrobial metal ion-exchange agent comprising a ceramic carrier having ion-exchanged antimicrobial metal ions.

Claim 61. (Previously Presented) A high aspect ratio microcapsule according to claim 60 wherein the ceramic carrier is selected from the group consisting of zeolites, hydroxyapatites and zirconium phosphates.

Claim 62. (Previously Presented) A high aspect ratio microcapsule according to claim 60 wherein the antimicrobial agent is a zeolite that contains silver ions.